

CLAIMS

What is claimed is:

5

1. A method for measuring receiver mixer IQ mismatch in a transceiver, the method comprising:

providing a training signal for a receiver mixer, the training signal having periodic, uncorrelated I and Q signals;

10 determining a phase mismatch in the receiver mixer from IQ correlation over a unit period; and

determining a gain mismatch in the receiver mixer from a power estimate of both I and Q signal for the unit period.

15 2. The method of claim 1 wherein providing a training signal further comprises closing an RF signal path between a transmitter and the receiver mixer and generating the training signal with the transmitter.

3. The method of claim 1 further comprising estimating the IQ mismatch iteratively.

20

4. The method of claim 3 further comprising utilizing a pre-compensated signal as a measurement signal for the iterative estimation.

5. The method of claim 3 further comprising performing post-correction using a latest available correction parameter and further estimating residual mismatch from post-correction signals.

5 6. The method of claim 1 further comprising utilizing matrix multiplication to perform mismatch compensation.

7. A system for estimation of receiver mixer IQ mismatch during signal modulation, the system comprising

10 a transceiver, the transceiver including a transmitter and a receiver, the transmitter providing a training signal for a receiver mixer, the training signal having periodic, uncorrelated I and Q signals; and

a processor coupled to the transceiver, the processor determining a phase mismatch in the receiver mixer from IQ correlation over a unit period, and determining a gain mismatch in the receiver mixer from a power estimate of both I and Q signal for the unit
15 period.

8. The system of claim 7 wherein the transmitter provides a training signal on a closed an RF signal path between the transmitter and the receiver mixer.

20 9. The system of claim 7 wherein the processor further estimates the IQ mismatch iteratively.

10. The system of claim 9 wherein the processor further utilizes a pre-compensated signal as a measurement signal for the iterative estimation.

11. The system of claim 9 wherein the processor further performs post-correction using a latest available correction parameter and further estimates residual mismatch from post-correction signals.

12. The system of claim 7 wherein the processor further utilizes matrix multiplication to perform mismatch compensation.

13. A method for measuring receiver mixer IQ mismatch in a transceiver, the method comprising:

utilizing a transmitter to provide a training signal for a receiver mixer, the training signal having periodic, uncorrelated I and Q signals; and

utilizing a processor to determine a phase mismatch in the receiver mixer from IQ correlation over a unit period, and to determine a gain mismatch in the receiver mixer from a power estimate of both I and Q signal for the unit period.

14. The method of claim 13 wherein utilizing a transmitter further comprises generating the training signal with the transmitter on a closed RF signal path between a transmitter and the receiver mixer.

15. The method of claim 13 wherein utilizing a processor further comprising utilizing the processor for estimating the IQ mismatch iteratively.

5 16. The method of claim 15 further comprising utilizing a pre-compensated signal as a measurement signal for the iterative estimation.

17. The method of claim 15 further comprising performing post-correction using a latest available correction parameter and further estimating residual mismatch from post-correction signals.

10 18. The method of claim 13 further comprising utilizing the processor for matrix multiplication to perform mismatch compensation.